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MANUFACTURE OF THIN FILM TRANSISTOR

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Applicant(s): ALPS ELECTRIC CO LTD
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Abstract

PURPOSE:To prevent reduction clouding of ITO, by using source/drain electrodes, which are formed on an n layer, as masks and etching the n layer, and next by forming a passivation layer immediately and afterwards etching a passivation layer and a picture element at the same time.
CONSTITUTION:A gate electrode 2, a picture element electrode 3 made of ITO (indium, tin oxide) materials and the like, a gate electrode layer 4, a semiconductor layer 5, and an n<+> layer 9 are formed on a substrate. A contact hole 10 is formed, and a source electrode 6 and a drain electrode 7 are formed of Al materials or the like on the n<+> layer 9. Next both these electrodes are used as masks to perform n<+> layer etching. The n<+> layer 9 is divided into two parts; a source region 5a and a drain region 5b, and a passivation layer 8 is formed thereon of silicon nitride materials or the like. Picture element etching, in which respective layers laminated on the picture element electrode 3 are removed to expose the picture element electrode 3, and passivation layer etching, in which passivation layers 8 on respective gate and source terminal parts of a thin film transistor are removed, are performed at the same time. Hence the clouding of the ITO can be prevented.